

FILED IN THE  
UNITED STATES DISTRICT COURT  
DISTRICT OF HAWAII

DEC 18 2006

at 2 o'clock and 15 min. P M  
SUE BEITIA, CLERK

## SUPPLEMENTAL DECLARATION OF ANDREW P. HOOD

I, ANDREW P. HOOD, declare under penalty of perjury that:

1. I previously submitted a declaration in this case on December 14, 2006. This declaration supplements my previous testimony, responding to various mischaracterizations of my previous testimony and factual inaccuracies in the materials the U.S. Army filed on December 15, 2006. Due to the short time available to prepare this supplemental declaration, I will focus on only those issues most important to understand the adverse environmental effects associated with allowing the Army to proceed with proposed Stryker-related activities without adequate Best Management Practices (“BMPs”) and other mitigations in place.

2. Since finalizing my initial declaration, I have reviewed the Declaration of Lawrence T. Kawasaki (dated December 16, 2006, which appears to be in error as I received the document on December 15, 2006), as well as the portions of the Army’s Supplemental Brief on the Scope of Interim Injunctive Relief that discuss impacts from erosion and stormwater runoff. In addition, I have re-reviewed various construction drawings for the Stryker-related projects that Mr. Kawasaki references in his declaration and consulted additional materials relevant to assessing the accuracy of Mr. Kawasaki’s statements.

3. This supplemental review leaves unaltered the opinions described in my initial declaration that, due to the inadequate types and numbers of BMPs, the Army’s proposed Stryker maneuvers and drivers training on the roads and off-road maneuver areas at Kahuku Training Area (“KTA”) and Schofield Barracks East

Range (“East Range”) would cause environmental damage above and beyond the erosion and runoff associated with non-Stryker exercises, that allowing the Army to complete construction of and use the Schofield Barracks Motor Pool would cause more environmental damage than leaving it in its current state, and that deficiencies in the Multiple Deployment Facility’s (“MDF’s”) BMPs must be addressed before construction and operation of the facility can proceed without causing adverse environmental impact.

#### **Maneuver Training At East Range and KTA**

4. Regarding the lack of proper BMPs in East Range and KTA, Mr. Kawasaki focuses on the “severe and unusual” weather during the winter of 2005-06 and suggests that this is not the time to “judg[e] the Army’s ability to maintain its BMPs.” As he notes, however, work to rehabilitate the roads at East Range began eight months ago, in April 2006. Eight months should have been more than ample time to correct the problems I found in the Army’s BMPs to control soil erosion and polluted runoff from the road network. Also, the Army already used these roads, damaged by the rainfall during the winter of 2005, for several months of Stryker maneuver training. It is my opinion that the Army should have repaired the roadways and BMPs to ensure that usage by the Stryker vehicles did not further degrade the roads and accelerate erosion rates across the training areas. If the Army understood the need for erosion and stormwater management, as Mr.

Kawasaki claims, it should have known of the need to prioritize the improvement and maintenance of these roads. Mr. Kawasaki does not explain why after all this time, the road network still remains in its present degraded condition.

5. Mr. Kawasaki claims the BMPs along the roads are adequate, an opinion with which I strongly disagree. Initially, the minimal BMPs I observed were limited almost exclusively to the road network on East Range. I did not observe, nor does Mr. Kawasaki identify, any meaningful BMPs along the road network in KTA, or any BMPs whatsoever in the areas proposed for off-road maneuver training at either East Range or KTA. Moreover, the BMPs that Mr. Kawasaki describes were the very ones that I observed were demonstrably inadequate and failing. Mr. Kawasaki states that “[s]ome transport of sediment in the swales at the edge of roads is to be expected and is acceptable as long as the sediment does not enter the streams.” While that statement is accurate, I observed at least three locations in East Range where roadside ditches drained directly into streams, which is not acceptable. Exhibit 58 attached to my previous declaration provides one example of the tell-tale proof of such erosion and polluted runoff.

6. Mr. Kawasaki also emphasizes that the Army cut paths into the vegetation to divert water away from the roads. Such “kickouts,” as they are termed in the profession, are essential to dissipate the concentration of runoff in the swales to lower velocity head energy and reduce erosion. In areas where the road grades get steeper and the road becomes entrenched, the need to dissipate flow

volume and velocities increases. Yet, the only kickouts I observed were in flat areas; none were present in any of the sloped areas. In most of the sloped areas, the entrenched configuration of the roads (i.e., the surrounding land lay at a higher elevation than the road) made the construction of such kickouts physically impossible. In these areas, other BMPs to reduce storm water velocities, filter sediments, and detain runoff must be installed.

7. Mr. Kawasaki's argument that I did not quantify the erosion previously caused by Stryker vehicles misses the point. If Stryker vehicles did not cause the erosion I observed, then the vastly more extensive Stryker training would cause even more harm and render the already failing BMPs even more inadequate. The Army's own analysis in its environmental impact statement admits a marked increase in erosion impacts from Stryker maneuvers at East Range and KTA, which it concludes will be "significant."

8. One particularly important point that Mr. Kawasaki does not acknowledge is that the unlined earthen ditches the Army has installed along the roads not only convey polluted runoff, but also produce significant sediment pollution in themselves because they are not protected and have exposed soils along their flow paths. Proper BMPs should include lining these ditches and installing sediment-filtering structures at their terminal locations where they discharge into streams.

9. Again, while I believe a comprehensive erosion control plan could be developed to avoid the significant adverse harm that Stryker training would cause, the Army's current BMPs fall far short of what is needed. Many more BMPs would have to be implemented, and the existing BMPs would need to be substantially repaired and upgraded to fulfill their intended function. As they stand now, the Army's BMPs are not controlling the erosion and runoff caused by present training, let alone the increases in such impacts that would occur should Stryker maneuver training be permitted to go forward.

#### **Schofield Barracks Motor Pool**

10. Mr. Kawasaki argues that I "apparently did not know the extent of the storm water control system" at the Motor Pool, and states that the Army plans to install "inlet filters with absorbent packs" in addition to the curb and gutter system. It was, however, the Army's own representative at the site inspection who explained to me that the Army's BMPs were limited to the curb and gutter system, and storm water culverts. Moreover, I have re-reviewed the detailed plans and designs for the Motor Pool the Army recently provided in discovery, and these contain no mention of any type of storm water filters or absorbent pads. Such BMPs should be installed and would be part of the additional BMPs necessary to handle the significant impacts the completion of the Motor Pool would otherwise cause.

11. Mr. Kawasaki also emphasizes that three concrete dissipaters and surge rock or riprap, and a berm would slow down water flows. This misses the point of my previous testimony. The primary benefit of the reduction in velocity caused by these measures would be to protect the toe of the flow outlets from damage from erosion. The reduced velocity would also protect the natural stream channel immediately downstream of the outlets from high velocities. These velocity reduction measures do not, however, address the concern stated in my previous declaration, which is that the creation of 34 acres of impervious parking surface would cause high runoff volumes that, upon reaching the natural stream channel, would degrade the channel, eroding stream banks and beds. This erosion would, in turn, increase sediments in the runoff water and impair biological organisms and water quality. Stated another way, the concrete dissipaters and riprap may reduce the velocity immediately at the discharge outlets, but they would not reduce the volume of flows rushing into the streams. They also would not address the problem of nonpoint source pollutants being transported in these high-volume flows.

12. Mr. Kawasaki states that “[o]n the other side of the berm is a natural vegetated forest area which extends approximately 2,900 meters (9,500 feet) before it reaches Waikele Stream.” The suggestion that the runoff from the Motor Pool would make its way through this forest before entering the stream is false. Waikele Stream runs immediately adjacent to the Motor Pool, and the concentrated



runoff from the Motor Pool would discharge as close as 250 to 400 feet from Waikele Stream, and then flow downslope directly into the stream. The Army's construction plans do not indicate the channels into which the concrete dissipaters would discharge; if such channels do not already exist, the water would cut its own channel, which would cause even more erosion and polluted runoff. Attached hereto as Exhibit "B" is a true and correct copy of a satellite image derived from Google Earth of the parcel that accurately depicts the close proximity of the Motor Pool to Waikele Stream. I have circled in black the approximate limits of construction for the Motor Pool and traced Waikele Stream in blue.

13. In sum, the Army itself anticipates the Motor Pool will cause very large volumes of storm water runoff. The sizable dimensions of the three concrete dissipaters it has installed confirm this. Nothing in the Army's plans, however, addresses the impacts of concentrated runoff and nonpoint source pollution that the completion of the Motor Pool would cause. Minimum BMPs necessary to minimize nonpoint source pollution would include, in addition to the filters and absorbent packs mentioned by Mr. Kawasaki but not included in the plans, an oil-water separator. Minimum BMPs necessary to reduce volume of runoff would include a combination of porous pavement, dry sumps, infiltration swales, and a dry or wet detention basin.



**Inadequacy of BMPs at MDF**

14. Regarding the MDF, Mr. Kawasaki first states that the detention basin “is designed correctly.” His explanations, however, do not support this statement. The point in my previous declaration regarding the detention basin was that, because the outlet was at nearly the same elevation as the invert or bottom of the basin, the basin will not perform its function of slowing down flows and capturing sediments and other pollutants. Instead, the invert of the outlet should be at a much higher elevation so that the basin ponds and collects water, detains it for a predetermined time so that sediments settle, and discharges the water from the outlet at controlled rates. Mr. Kawasaki responds that “[t]he volume of water going into the basin will be much higher than the volume leaving the basin,” such that outflows will ultimately be limited by the size of the outlet. He does not state for what design storm this is true. As designed, the detention basin will detain water only when inflow is greater than outflow. If the Army designed the detention basin to handle a high magnitude storm, as Mr. Kawasaki indicates, the detention basin will serve little or no purpose during lesser, more frequent storm events. The detention basin should be modified to handle the whole range of storm events.

15. Mr. Kawasaki also mentions a rolled fabric barrier will be used if needed, but such measures will have little effect on the outlet velocities where the culvert discharges into the stream. He mentions other possibilities “should this

system fail.” Instead of proposing additional measures to compensate for further potential problems, the Army should just correct the design flaw in the detention basin at the outset.

16. Mr. Kawasaki acknowledges the erosion problems I previously detailed and states that the Army was addressing the problems when the current injunction began. Of course, had adequate BMPs been installed in the first place, these problems would not have occurred. Mr. Kawasaki cites check dams and additional silt curtains as the solution for the erosion problems. As stated, silt curtains are not designed to handle the concentrated flows. Further, it is now widely accepted in the profession, including by the International Erosion Control Association, that check dams are not recommended to control gullying and erosion because they do not effectively prevent, and can actually exacerbate, the problem.

17. In sum, based on Mr. Kawasaki’s responses, it is clear that the Army still lacks a comprehensive plan to address the erosion problems at the MDF and is instead developing BMPs on an ineffective, ad hoc basis. The Army should be required to develop and provide a comprehensive plan before causing more environmental harm by proceeding with MDF construction.

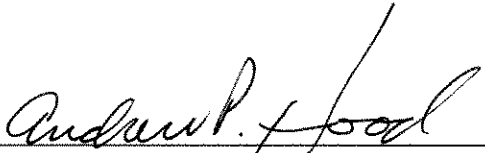
//

//

//

I declare under penalty of perjury that the forgoing is true and correct to the best of my knowledge, information, and belief.

Dated at Honolulu, Hawai'i, December 18, 2006.

  
\_\_\_\_\_  
ANDREW P. HOOD

---

'Īlio'ulaokalani Coalition, et al. v. Donald H. Rumsfeld, et al., Civil No. 04-00502  
DAE BMK (D. Haw.); SUPPLEMENTAL DECLARATION OF ANDREW P.  
HOOD